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SPACE GATEWAY SUPPORT (SGS) **SGS-08 41 13.00 99 (April 2006)**

Preparing Activity: SGS-DE **Superseding SGS-08410J (February 2005)**

SGS GUIDE SPECIFICATIONS

References are NOT in Agreement with UMRL dated 01 April 2006

Revised throughout - changes not indicated by CHG tags
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DIVISION 08 - OPENINGS

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ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

04/06

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SECTION 08 41 13.00 99

ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS
04/06

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NOTE: This section covers Aluminum Entrances, glass and glazing, and door hardware and components.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.
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PART 1 GENERAL

1.1 SUMMARY

1.2 Section Includes

Aluminum Entrances, glass and glazing, and door hardware and components.

Types of Aluminum Entrances Include:

Impact Resistance Entrances; Medium stile, 3-1/2" vertical face dimension, 1-3/4" depth, Interior structural silicone glazed, High traffic/impact resistant applications.

1.3 REFERENCES

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NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a RID outside of the Section's Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text will automatically be deleted from this section of the project specification when you choose to reconcile references in the publish print process.

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The publications listed below form a part of this section to the extent referenced:

AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)

AAMA 501	(1999) Methods of Test for Exterior Walls
AAMA 503	(1992) Voluntary Specification for Field Testing of Metal Store-Fronts, Curtain Walls, and Sloped Glazing Systems

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A156.10	(1999) Power Operated Pedestrian Doors
ANSI Z97.1	(1994) Safety Glazing Materials Used in Buildings Safety

ASTM INTERNATIONAL (ASTM)

ASTM B 221/B 221M	(2003) Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
ASTM E 1105	(2000) Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Presure Difference
ASTM E 1886	(1997) Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Storm Shutters Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials
ASTM E 283	(2004) Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors, Under Specified Pressure Differences Across the Specimen
ASTM E 330	(2002) Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference
ASTM E 331	(2000) Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
ASTM E 783	(1993) Test Method for Field Measurement of Air Leakage Through Installed Exterior

DADE COUNTY BUILDING CODE COMPLIANCE OFFICE (DCBCCO)

DCBCCO Protocols PA-201	(1994) Air Infiltration/Wind Load Test
DCBCCO Protocols PA-202	(1994) Forced Entry Test
DCBCCO Protocols PA-203	(1994) Cycle Test

FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS BUILDING CODES AND STANDARDS (FBC)

DCE/SFBC Section 3508	(2001)Missile Impact Test, Dade County Edition/Southern Florida Building Code

GLASS ASSOCIATION OF NORTH AMERICA (GANA)

GANA GM	(1997) Glazing Manual

INTERNATIONAL CODE COUNCIL (ICC)

SBCCI Chapter 12	(November 2001) Interior Environment

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

16 CFR PART 1201	(2001) Safety Standard for Architectural Glazing Materials

UNDERWRITERS LABORATORIES (UL)

UL 325	(2002) Door, Drapery, Gate, Louver, and Window Operators and Systems

1.4 SYSTEM DESCRIPTION

1.4.1 Entrance Performance Requirements

1.4.1.1 Air Infiltration

For single acting offset pivot, butt hung or continuous geared hinge entrances in the closed and locked position, the test specimen shall be tested in accordance with DCBCCO Protocols PA-202, ANSI A156.10, and ASTM E 283 at a pressure differential of 1.57 psf for pairs of doors. A pair of 6'0" x 8'0" entrance doors and frame shall not exceed 1.2 cfm\ft2.

1.4.2 Structural

Corner strength shall be tested per Kawneer's dual moment load test procedure and certified by an independent testing laboratory to ensure weld compliance and corner integrity. Testing procedure and certified test results per AAMA 503, ASTM E 1105, ASTM E 783, ASTM E 331, DCE/SFBC Section 3508,SBCCI Chapter 12, and must be available upon request.

1.4.2.1 Uniform Load

A static air design load of 85 psf (65 psf for 9/16" laminated infill) shall be applied in the positive and negative direction in accordance with DCBCCO Protocols PA-202, AAMA 501, and ASTM E 330. There shall be no

deflection in excess of l/180 of the span of any framing member. At a structural test load equal to 1.5 times the specified design load, no glass breakage shall occur.

1.4.2.2 Impact Resistance

Large Missile, tested in accordance with DCBCCO Protocols PA-201, DCBCCO Protocols PA-203, DCE/SFBC Section 3508, SBCCI Chapter 12, and ASTM E 1886 at a door opening of 6'0" x 8'0".

1.4.2.3 Forced Entry

Tested in accordance with SFBC 3603.2 (b) (5).

1.5 SUBMITTALS

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NOTE: Review submittal description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list to reflect only the submittals required for the project. Submittals should be kept to the minimum required for adequate quality control. Include a columnar list of appropriate products and tests beneath each submittal description.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

Submittal items not designated with a "G" are considered as being for information only for Army projects and for Contractor Quality Control approval for Navy, Air Force, and NASA projects.

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The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES in sufficient detail to show full compliance with the specification:

Quality Assurance/Control Submittals:

SD-06 Test Reports

Submit Certified Test Reports showing compliance with specified performance characteristics and UL 325.

SD-07 Certificates

Submit, for Owner's acceptance, Manufacturer's Product Warranty for entrance system as follows:

Warranty Period: Two (2) years from Date of Substantial Completion of the project provided however that the Limited Warranty shall begin in no event later than six months from date of shipment by manufacturer. In addition, welded door corner construction shall be supported with a limited lifetime warranty for the life of the door under normal use.

1.6 QUALITY ASSURANCE

1.6.1 Qualifications

1.6.1.1 Installer Qualifications

Installer experienced (as determined by contractor) to perform work of this section who has specialized in the installation of work similar to that required for this project and who is acceptable to product manufacturer.

1.6.1.2 Manufacturer Qualifications

Manufacturer capable of providing field service representation during construction, approving acceptable installer and approving application method. Provide three copies of Manufacturer's Product Warranty and Certified Test Reports.

1.6.2 Pre-Installation Meetings

Conduct pre-installation meeting to verify project requirements, substrate conditions, manufacturer's installation instructions, and manufacturer's warranty requirements.

1.7 DELIVERY, STORAGE, AND HANDLING

1.7.1 Ordering

Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.

1.7.2 Packing, Shipping, Handling and Unloading

Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

1.7.3 Storage and Protection

Store materials protected from exposure to harmful weather conditions. Handle storefront material and components to avoid damage. Protect storefront material against damage from elements, construction activities, and other hazards before, during and after storefront installation.

PART 2 PRODUCTS

2.1 Manufacturers

2.1.1 Design Based On

Kawneer Company, Inc.
555 Guthridge Court,
Technology Park/Atlanta
Norcross, GA 30092
Telephone: (770) 449-5555
Fax: (770) 734-1560

2.1.2 Proprietary Product(s)/System(s)

Kawneer Aluminum Entrances.
Series: 350 IR Entrances
Finish/Color: Interpon D2000 Powder Coating "Midnight Blue"

2.2 Alternate Manufacturers

Alternate manufactures are acceptable providing they meet the requirements and intent identified in this section and project drawings.

2.3 MATERIALS

2.3.1 Aluminum (Entrances and Components)

2.3.1.1 Material Standard

ASTM B 221/B 221M; 6063-T5 alloy and temper

The door stile and rail face dimensions of the entrance doors will be as follows:

Vertical Stile	**Top Rail**	**Bottom Rail**
3-1/2"	3-1/2"	6-1/2"

Major portions of the door members to be .125" nominal in thickness and glazing molding to be .050" thick.

2.3.1.2 Tolerances

Reference to tolerances for wall thickness and other cross-sectional dimensions of entrance members are nominal and in compliance with Aluminum Standards and Data, published by The Aluminum Association.

Glazing gaskets shall be either EPDM elastomeric extrusions or a thermoplastic elastomer.

Structural silicone sealant to be Dow Corning 983 or 995.

2.4 ACCESSORIES

2.4.1 Fasteners

Where exposed, shall be stainless steel.

2.4.2 Perimeter Anchors

When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action.

2.4.3 Standard Entrance Hardware

2.4.3.1 Weatherstripping

Meeting stiles on pairs of doors shall be equipped with an adjustable astragal utilizing wool pile with polymeric fin.

The door weathering on a single acting offset pivot or butt hung door and frame (single or pairs) shall be comprised of a thermoplastic elastomer weathering on a tubular shape with a semi-rigid polymeric backing.

Sill Sweep Strips: EPDM blade gasket sweep strip in an aluminum extrusion applied to the interior exposed surface of the bottom rail with concealed fasteners. (Necessary to meet specified performance tests.)

2.4.3.2 Threshold

Extruded aluminum, one piece per door opening, with ribbed surface.

2.4.3.3 Offset Pivots

Manufacturer standard top and bottom pivots with one intermediate offset pivot.

2.4.3.4 Panic Device

Jackson 2086 Concealed Vertical Rod Exit Device or Paneline Concealed Rod Exit Device (tested to +/- 65 psf Uniform Load).

2.4.3.5 Closer

Surface closer only.

2.4.3.6 Security Lock/Dead Lock

A/R MS 1850A lock with (2) A/R 1871 cylinder operated flushbolts.

2.4.3.7 Cylinder(s)/Thumbturn

Manufacturer standard.

2.4.3.8 Cylinder Guard

Manufacturer standard.

2.5 RELATED MATERIALS

2.5.1 Sealants

Refer to Section 07 92 00.00 40 JOINT SEALANTS.

2.5.2 Glass

Refer to Section 08 80 00.00 40 GLAZING.

2.6 FABRICATION

2.6.1 Entrance System Fabrication

Door corner construction shall consist of mechanical clip fastening, SIGMA deep penetration plug welds and 1-1/8" long fillet welds inside and outside of all four corners. Exterior glazing stop shall be hook-in type with EPDM glazing gaskets reinforced with non-stretchable cord. Interior glazing stop shall be mechanically fastened to the door member and it shall incorporate a silicone compatible spacer used with silicone sealant.

Accurately fit and secure joints and corners. Make joints hairline in appearance.

Prepare components with internal reinforcement for door hardware.

Arrange fasteners and attachments to conceal from view.

2.7 SOURCE QUALITY CONTROL

2.7.1 Source Quality

Provide aluminum entrances specified herein from a single source.

2.7.1.1 Building Enclosure System

When aluminum entrances are part of a building enclosure system, including storefront framing, windows, curtain wall system and related products, provide building enclosure system products from a single source manufacturer.

2.7.2 Fabrication Tolerances

Fabricate aluminum entrances in accordance with entrance manufacturer's prescribed tolerances.

PART 3 EXECUTION

3.1 EXAMINATION

3.1.1 Site Verification of Conditions

Verify substrate conditions (which have been previously installed under other sections) are acceptable for product installation in accordance with manufacturer's instructions.

Verify openings are sized to receive storefront system and sill plate is level in accordance with manufacturer's acceptable tolerances.

3.1.2 Field Measurements

Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements, fabrication schedule with construction progress to avoid construction delays.

3.2 INSTALLATION

Install entrance system in accordance with manufacturer's instructions and AAMA storefront and entrance guide specifications manual.

Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.

Provide alignment attachments and shims to permanently fasten system to building structure.

Align assembly plumb and level, free of warp and twist. Maintain assembly dimensional tolerances aligning with adjacent work.

Set thresholds in bed of mastic and secure.

3.2.1 Adjusting

Adjust operating hardware for smooth operation.

3.2.2 Related Products Installation Requirements

3.2.2.1 Sealants (Perimeter)

Refer to Section 07 92 00.00 40 JOINT SEALANTS.

3.2.2.2 Glass

Refer to Section 08 80 00.00 40 GLAZING.

3.2.2.3 Reference

ANSI Z97.1, 16 CFR PART 1201 and GANA GM.

3.3 PROTECTION AND CLEANING

3.3.1 Protection

Protect installed product's finish surfaces from damage during construction. Protect aluminum storefront system from damage from grinding and polishing compounds, plaster, lime, acid, cement, or other harmful contaminants.

3.3.2 Cleaning

Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to owner's acceptance. Remove construction debris from project site and legally dispose of debris.

-- End of Section --